

WHAT IS CLAIMED IS:

1 1. A mobile communication system comprising a plurality of base
2 stations which are located at appropriate positions within a
3 predetermined area and conduct radio communications with a mobile
4 communication terminal, and an exchange office which is connected
5 with said base stations and conducts the exchange control toward
6 an external network, said exchange office conducting a Time Division
7 Multiplex radio communication by providing a synchronizing signal
8 from said exchange office to each of said base stations.

9 said system further comprising.

10 delay time detection means for detecting an arrival delay time
11 of said synchronizing signal to each of said base stations;

12 computation means for computing a timing correction value which
13 synchronizes a radio communication timing of all of said base
14 stations for each base station on the basis of a delay time detected;
15 and

16 correction means for correcting said synchronizing signal
17 supplied to said base stations according to said timing correction
18 value.

1 2. A mobile communication system, according to claim 1, wherein:
2 said delay detection means comprises:

3 means installed in said exchange office for generating a test
4 signal for delay time detection and sending said test signal to said
5 base stations;

6 means for sending by return said test signal sent from said
7 exchange office at said base station; and

8 measuring means for receiving said test signal sent by return

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1 7. A mobile communication system, according to claim 3, wherein:
2 said system comprises switching means for selectively switching
3 an operating conditions thereof to normal and test operating
4 conditions, and makes said delay time detection means operate when
5 said system is in a test operation mode.

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1 8. A mobile communication system, according to claim 4, wherein:
2 said system comprises switching means for selectively switching
3 an operating conditions thereof to normal and test operating
4 conditions, and makes said delay time detection means operate when
5 said system is in a test operation mode.

1 9. A mobile communication system, according to claim 5, wherein:
2 said system executes said test operation mode when operating
3 said system for the first time and/or terminating a maintenance
4 operation including additional installation of said base stations.

1 10 A mobile communication system, according to claim 6,
2 wherein:
3 said system executes said test operation mode when operating
4 said system for the first time and/or terminating a maintenance
5 operation including additional installation of said base stations.

1 11. A mobile communication system, according to claim 7,
2 wherein:
3 said system executes said test operation mode when operating
4 said system for the first time and/or terminating a maintenance
5 operation including additional installation of said base stations.

1 12. A mobile communication system, according to claim 8,
2 wherein:
3 said system executes said test operation mode when operating
4 said system for the first time and/or terminating a maintenance
5 operation including additional installation of said base stations.

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1 13. A method of controlling synchronization between base
2 stations in a mobile communication system comprising a plurality
3 of base stations which are located at appropriate positions within
4 a predetermined area and conduct radio communications with a mobile
5 communication terminal, and an exchange office which is connected
6 with said base stations and conducts the exchange control toward
7 an external network, said exchange office conducting a Time Division
8 Multiplex radio communication by providing a synchronizing signal
9 from said exchange office to each of said base stations.

10 said method comprising the steps of:

11 detecting an arrival delay time of said synchronizing signal
12 to each of said base stations;

13 computing a timing correction value which synchronizes timing
14 of radio communication of all the base stations on the basis of delay
15 time detected for each of said base stations; and

16 correcting said synchronizing signal supplied to said base
17 station according to said timing correction value.